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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JIANG, SHAOJIA A

ART UNIT PAPER NUMBER

1617

DATE MAILED: 11/19/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/720,942

Applicant(s)

FOX ET AL.

Examiner

Shaojia A Jiang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is a response to Applicant's amendment and response filed on August 23, 2003 in Paper No. 19 wherein claims 1-15 have been amended and claim 16 is newly submitted.

Currently, claims 1-16 are pending in this application.

The following is a new rejection necessitated by Applicant's amendment filed on August 23, 2003 in Paper No. 18.

The terminal disclaimer filed on August 23, 2003 in Paper No. 20, disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. 6,199,766 has been reviewed and is accepted. The terminal disclaimer has been recorded.

The terminal disclaimer filed on July 17, 2002 in Paper No. 20, with respect to the rejection of claims 1-15 made under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,199,766 in view of McCue et al. (5,403,587, of record) of record in the previous Office Action April 23, 2003 has been considered and found persuasive. Therefore, this obviousness-type double patenting rejection is withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-16 as amended now in Paper No. 19 submitted August 23, 2003, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant's amendment with respect to amended claim 1 has been fully considered but is deemed to insert new matter into the claims since the specification as originally filed does not provide support for "the airborne microorganism and viruses that are not attached to dust particles". Any negative limitation or exclusionary proviso must have basis in the original disclosure. See *Ex parte Grasselli*, 231 USPQ 393 (Bd. App. 1983), *aff'd mem.*, 738 F.2d 453 (Fed. Cir. 1984). The mere absence of a positive recitation is not basis for an exclusion. Any claim containing a negative limitation which does not have basis in the original disclosure should be rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. See MPEP § 2163 - § 2163.07(b) for a discussion of the written description requirement of 35 U.S.C. 112, first paragraph.

In the instant case, the original specification fails to disclose the claimed method for killing the airborne microorganism and viruses that are not attached to dust particles. Applicant assertion with respect to the Examples 1 and 2 in the specification using HEPA filter and thus providing the support for "the airborne microorganism and viruses that are not attached to dust particles" has been fully considered but not persuasive.

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Since even though the HEPA filter may effectively remove merely "lung damaging dust" or dust particles greater than 0.3 microns, employing the HEPA filter is not seen to provide "the airborne microorganism and viruses that are not attached to dust particles" in an absolutely dust free atmosphere. Further, it is noted that Example 2 in the specification fails to disclose "the airborne microorganism and viruses that are not attached to dust particles", since "Bacterial were sprayed from a collision nebulizer for 60 seconds and mix with the room air for a further 60 seconds by a fan" (see page 17 lines 27-29, emphasis added).

Consequently, there is nothing within the instant specification which would lead the artisan in the field to believe that Applicant was in possession of the invention as it is now claimed. See *Vas-Cath Inc. v. Mahurkar*, 19 USPQ 2d 1111, CAFC 1991, see also *In re Winkhaus*, 188 USPQ 129, CCPA 1975.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16, as amended now in Paper No. 19 submitted August 23, 2003, are rejected under 35 U.S.C. 103(a) as being unpatentable over Fox et al. (WO 97/28883,

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of record) in view of McCue et al. (5,403,587, of record) for reasons of record stated in the Office Action dated April 23, 2003.

The added language, killing "the airborne microorganism and viruses that are not attached to dust particles" in amended claims 1-15 and the new claim 16 does not render the claimed method nonobvious over the prior art as. Applicant's remarks filed on August 25, 2003 in Paper No. 19 with respect to this rejection of claims 1-15 made under 35 U.S.C. 103(a) have been fully considered but are not deemed persuasive as to the nonobviousness of the claimed invention over the prior art as discussed below.

Fox et al. discloses that the same (aerosol) spray device having same spraying functions as the instant claimed device is useful in a method of precipitating airborne particles. Fox et al. further discloses that the liquid composition which is sprayed from the aerosol spray device is a mixture of water and hydrocarbon, or an emulsion and an anti-bacterial agent. See abstract, page 2 lines 1-20, and claims 1-7. As discussed in the previous Office Action, Fox et al. discloses that the same aerosol spray device having same spraying functions as the instant claimed device is useful in a method of precipitating airborne particles broadly. In particular, the spray device of Fox therein is known to produce the same unipolar charge which provides the droplets with a charge to the same mass ratio of at least $\pm 1 \times 10^{-4}$ C/Kg (see the abstract). Moreover, one of ordinary skill in the art would recognize that these airborne particles include airborne microorganism and/or viruses encompassing attached or not attached to dust particles, e.g., including micrococcus lutens bacteria.

Fox et al. does not expressly disclose the employment of this aerosol spray device comprising a disinfecting or sanitizing compositions in a method of disinfecting or sanitizing a space occupied by airborne microorganisms and/or viruses that are not attached to dust particles. The prior art does also not expressly disclose the employment of the particular disinfecting or sanitizing composition comprising an essential oil as an anti-bacterial or anti-viral agent such as thyme, lemongrass, roses, citronella, eucalyptus, and sandalwood, and quaternary ammonium.

McCue et al. discloses the disinfectant and sanitizing compositions having anti-microbial activity comprising known ingredients such as essential oils, thyme, lemongrass, roses, citronella, eucalyptus, and sandalwood, and organic solvent and a surfactant in amounts within the instant claim.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the aerosol spray device herein comprising a disinfecting or sanitizing compositions in a method of disinfecting or sanitizing a space occupied by airborne microorganisms and/or viruses that are not attached to dust particles, and to employ an essential oil as an anti-bacterial or anti-viral agent such as thyme, lemongrass, roses, citronella, eucalyptus, and sandalwood, and quaternary ammonium in the disinfecting or sanitizing composition, and to optimize the effective amounts of each ingredients in the composition.

One having ordinary skill in the art at the time the invention was made would have been motivated to employ the aerosol spray device herein comprising a disinfecting or sanitizing compositions in a method of disinfecting or sanitizing a space

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occupied by airborne microorganisms and/or viruses that are not attached to dust particles because the same aerosol spray device having same spraying functions as the instant claimed device is known to be useful in a method of precipitating airborne particles. One of ordinary skill in the art would recognize that these airborne particles include airborne microorganism and/or viruses that are not attached to dust particles.

Moreover, the liquid composition of Fox et al. which is sprayed from the aerosol spray device is known to comprise a mixture of water and hydrocarbon, or an emulsion and an anti-bacterial agent within the instant claim. Thus, Fox et al. therein teaches broadly the usefulness of this aerosol spray device. Therefore, one of ordinary skill in the art would have reasonably expected that this aerosol spray device containing the liquid composition of Fox et al. would be useful in a method of disinfecting or sanitizing a space occupied by airborne microorganisms and/or viruses that are not attached to dust particles. Additionally, one of ordinary skill in the art would have been motivated to employ quaternary ammonium and the essential oil herein in the disinfecting or sanitizing composition since quaternary ammonium is well known a disinfectant and sanitizer since it is known that quaternary ammonium has antimicrobial activity. It is also known that the essential oil such as thyme, lemongrass, roses, citronella, eucalyptus, and sandalwood is useful in the disinfecting or sanitizing composition as an anti-bacterial or anti-viral agent according to McCue et al. Further, one of ordinary skill in the art would have been motivated to optimize the effective amounts of active ingredients in the composition herein because such effective amounts of active ingredients in the composition herein have been taught by McCue et al.

Applicant argues that Fox et al. does not expressly disclose the employment of an aerosol spray device comprising a disinfecting or sanitizing compositions in a method for disinfecting or sanitizing a space contaminated by airborne microorganisms and/or viruses that are that are not attached to dust particles. However, as discussed in the previous Office Action, Fox et al. discloses that the same aerosol spray device having same spraying functions as the instant claimed device is useful in a method of precipitating airborne particles broadly. In particular, the spray device of Fox therein is known to produce the same unipolar charge which provides the droplets with a charge to the same mass ratio of at least $\pm 1 \times 10^{-4}$ C/Kg (see the abstract). Moreover, one of ordinary skill in the art would recognize that these airborne particles include airborne microorganism and/or viruses. Thus, Fox et al. therein teaches broadly the usefulness of this aerosol spray device. Therefore, one of ordinary skill in the art would have reasonably expected that this aerosol spray device containing the liquid composition of Fox et al. would have same usefulness in a method of disinfecting or sanitizing a space contaminated by airborne microorganisms and/or viruses that are that are not attached to dust particles by killing these airborne microorganisms and/or viruses whether attached to dust particles or not and whether precipitated or not, because the critical method steps, employing the same function device and spraying into a space, have been taught by Fox.

Moreover, the mechanism of action of a treatment does not have a bearing on the patentability of the invention if the method steps are already known even though applicant has proposed or claimed the mechanism recited in claim 1. Applicant's

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recitation of a new mechanism of action for the prior art method will not, by itself, distinguish the instant claims over the prior art teaching the same or nearly the same method steps. Mere recognition of latent properties in the prior art does not render novel or nonobvious an otherwise known invention. See *In re Wiseman*, 201 USPQ 658 (CCPA 1979). Granting a patent on the discovery of an unknown but inherent function would remove from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art. *In re Baxter Travenol Labs*, 21 USPQ2d 1281 (Fed. Cir. 1991). See M.P.E.P. 2145.

Further, as discussed above in the rejection under 35 U.S.C. 112, first paragraph, it is noted that Example 2 in the specification fails to disclose “the airborne microorganism and viruses that are not attached to dust particles” since the bacterial used in the test were sprayed from a collision nebulizer for 60 seconds and mixed with the room air for a further 60 seconds by a fan”.

In response to Applicant's argument that HEPA filters are not used in the test reported in the Fox reference, the limitation on HEPA filters is not stated in the instant claims. Therefore, it is irrelevant whether the reference includes those features or not.

Again, Applicant also asserts that the disinfectant and sanitizing compositions of McCue et al. having anti-microbial activity comprising essential oils such as thyme, lemongrass, roses, citronella, eucalyptus, and sandalwood, and organic solvent and a surfactant in amounts within the instant claim are used for hard surface. However, McCue et al. has been cited by the examiner primarily for its teaching that the

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disinfectant and sanitizing compositions of McCue et al. comprising active ingredients within the instant claims are known to have anti-microbial activity.

Moreover, the liquid composition of Fox et al. which is sprayed from the aerosol spray device is known to comprise a mixture of water and hydrocarbon, or an emulsion and an anti-bacterial agent within the instant claim. Thus, Fox et al. therein teaches broadly the usefulness of this aerosol spray device. Additionally, one of ordinary skill in the art would have been motivated to employ quaternary ammonium and the essential oil herein in the disinfecting or sanitizing composition since quaternary ammonium is well known a disinfectant and sanitizer since it is known that quaternary ammonium has antimicrobial activity.

Thus the claimed invention as a whole is clearly prima facie obvious over the combined teachings of the prior art.

Applicant's data shown in the Examples 1-2 of the specification at pages 15-19 herein have been fully considered with respect to the nonobviousness and/or unexpected results of the claimed invention over the prior art, but are not deemed persuasive. The results herein are clearly expected and not unexpected based on the cited prior art. Expected beneficial results are evidence of obviousness. See MPEP § 716.02(c). Therefore, the evidence presented in Examples herein is not seen to support the nonobviousness of the instant claimed invention over the prior art.

For the above stated reasons, said claims are properly rejected under 35 U.S.C. 103(a). Therefore, said rejection is adhered to.

In view of the rejections to the pending claims set forth above, no claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jiang, whose telephone number is (703) 305-1008. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan, Ph.D., can be reached on (703) 305-1877. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-1235.

S. Anna Jiang, Ph.D.
Patent Examiner, AU 1617
November 17, 2003


SREENI PADMANABHAN
SUPERVISORY PATENT EXAMINER

11/17/03